Integrated Water Quality and Aquatic Communities Protocol – Wadeable Streams

Standard Operating Procedure (SOP) #5: Order of Work

Draft Version 1.0

Revision History Log:

Previous Version	Revision Date	Author	Changes Made	Reason for Change	New Version

This SOP lays out an example flow of work for the field crew. The goal is for a four person crew to be able to sample a small sample reach in 4-6 hours and a larger sample reach in 6-8 hours. This will then allow adequate access time to sample the largest of streams in a 10-12 hour workday. Additionally, it is ambitious to assume that two sample reaches could be completed in 1 day. However, if conditions are optimum and it is believed that a second reach can be fully completed, it should be attempted.

Unlike other SOPs, this SOP should be flexible for different crews. As long as certain principles are held and individual SOPs are adhered to, crews should be free to modify the order of tasks as they see efficient. For example, if a local park specialist accompanies the crew for a day, there may be a more efficient way for the crews to accomplish the workload with an additional person.

For most crews, a certain amount of standardization will work the best. However, certain sampling locations will differ in the amount of time necessary to complete certain tasks. For example, some sites will have very quick woody debris counts, while others may take 1 to 2 hours. Hence, flexibility is needed in the flow of work to obtain maximum efficiency.

Crew Specialization

Crew members are encouraged to learn and engage in as many sampling protocols as possible. However, tasks associated with certain SOPs require consistency and efficiency that are only acquired through repetition. Crew members should designate who completes the components of these SOPs and adhere to these designations throughout the field season. Cross training in all SOPs is still required.

These specializations are:

1. Physical Habitat Specialist
2. Riparian Habitat Specialist
3. Stream Technician

SOP #5. Work Flow (continued).

This SOP explains how the following SOPs are integrated into an overall workflow so that procedures do not interfere with each other (Figure 1). Hence, the following descriptions do not detail the steps but instead refer to the other SOPs.

The order of work presented represents a schematic of what worked well during the pilot project used in developing these SOPs. The primary considerations and limitations in modifying this order of work are:

1. Do not conduct any sampling activities upstream of the X-point until a crew member has completed water quality analysis and collected water samples for water chemistry analysis. Scouting is the exception to this rule and should be done by the Crew Leader only, taking care to not disturb the stream channel. The rationale for this is that the disturbance of stream substrates will bias the resulting water samples.
2. All sampling events prior to electrofishing should be done with care not to disturb the aquatic habitat. This includes laying out the sample reach (SOP #6: Site Arrival and Sample Reach Layout), which requires entering the aquatic environment. Electrofishing should be initiated as soon as possible to reduce the effect of sampling events on capture efficiency.
3. Electrofishing should always be initiated by three crew members to ensure that it is completed quickly and efficiently to reduce the handling time of collected specimens. However, if numbers of collected specimens are low, the task may be finished with just two individuals.

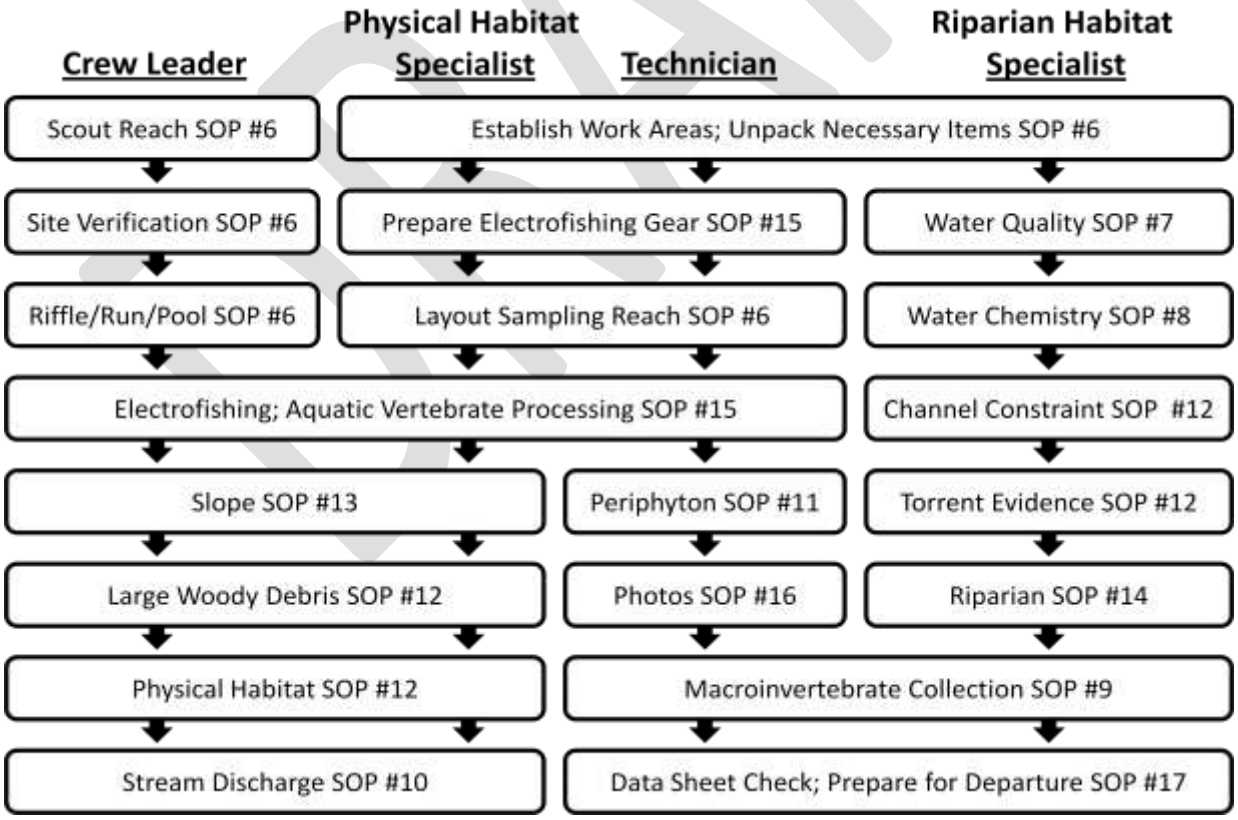

Figure 1. Suggested roles and responsibilities and order of work for efficient sampling of streams. Rectangles indicate which of the above listed crew members should participate in each task.